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The Chadic Verbal System

and Its Afroasiatic Nature

by

Russell G. Schuh



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**THE CHADIC VERBAL SYSTEM
AND ITS AFROASIATIC NATURE***

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Some scholars, especially Diakonoff, have delineated a number of general Afroasiatic structural features which are present in the Chadic family. Most such comparative work has relied heavily on Hausa, but Hausa viewed alone does not always give an accurate picture of deeper Chadic patterns. Using data from Chadic languages in addition to Hausa we find many specific features of the Chadic verbal system correspond closely to those reconstructible for proto-Afroasiatic. Two such features are (1) use of a subject prefix, and (2) alterations of verb stems to indicate aspect.

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* This is a much revised version (March 1975) of a paper delivered at the first NORTH-AMERICAN CONFERENCE ON SEMITIC LINGUISTICS held at the University of California, Santa Barbara, 1973. My thanks to Paul Newman for discussing an earlier draft with me.

1. INTRODUCTION: CLASSIFICATION

Resemblances between languages of the Chadic group and languages of other groups of the Afroasiatic family have long been recognized. Data from Chadic languages, especially Hausa, have been cited in general comparative works on Afroasiatic since at least the turn of the century (Reinisch, 1909) and probably before. Today, the relationship of the Chadic family to the rest of Afroasiatic is established beyond question as works such as Cohen (1947), Greenberg (1963), and Diakonoff (1965) adequately demonstrate.

Greenberg (1963) not only marshalled evidence for the Afroasiatic affiliation of Chadic, but he also gave the most detailed internal sub-grouping of the Chadic family made to that time, dividing the Chadic languages into nine major sub-groups. Newman and Ma (1966), accepting Greenberg's sub-grouping, further refined his classification by joining his groups 1 and 9 into a single major group, which they referred to as "Plateau-Sahel" and his groups 3 and 6 into a second major group, which they referred to as "Biu-Mandara."¹ They did not further classify groups 2, 4, 5, 7, and 8, but recently Hoffmann (1971) has put all these groups into Biu-Mandara. Newman (1972, 1974) now accepts Hoffmann's incorporation of these groups into Biu-Mandara but expresses doubts about collapsing Greenberg's groups 1 and 9 into a single branch. He suggests instead three major branches of Chadic: Plateau-Sahel (Greenberg's group 1), Biu-Mandara (Greenberg's groups 2-8), and East Chadic or "Kelo-Telfan" (Greenberg's group 9).

In the Plateau-Sahel group are found languages such as Hausa, Bolanci, Karekare, Angas, Ron, Ngizim, and Warji. In the Biu-Mandara group are such languages as Margi, Higi, Tera, Mandara, Muzgu, Logone, and Matakam. East Chadic includes such languages as Mubi, Dangaleat, and Sokoro. Most of the data cited in this paper will be from Plateau-Sahel languages. As far as I know, the Biu-Mandara and East Chadic languages would not give evidence in conflict with that presented here.

2. THE CHADIC VERBAL SYSTEM

Diakonoff (1965:11) characterizes three diachronic stages in the development of Afroasiatic languages: ANCIENT, which preserves many features of proto-Afroasiatic; MIDDLE, which involves some phonological simplification and partial remodelling of morphology; NEW, which involves complete phonological and morphological remodelling. According to Diakonoff (p. 13), Chadic languages belong to the New Stage of diachronic development. I have doubts about the usefulness of the Ancient/Middle/New Stage trichotomy, but even accepting this

¹ Newman and Ma (1966:218-219) suggest that the Plateau-Sahel group corresponds closely to the "Chado-Hamitic" group of Lukas (1936) and the Biu-Mandara group corresponds closely to his "Mandara" (later referred to as "Chadic" in Westermann and Bryan (1952)). Research since the writing of Newman and Ma (1966) reveals that this correspondance between theirs and Lukas' groups does not hold up. Newman (1974) notes that in fact Lukas' Chado-Hamitic is not a true genetic subgroup at all, but rather is a conglomeration of languages grouped mainly on typological criteria such as the existence of grammatical gender. Thus, Lukas' Chado-Hamitic includes languages which demonstrably are in the Biu-Mandara group, e.g. Kotoko and Muzgu, and excludes languages that are demonstrably Plateau-Sahel, e.g. Angas. Turning to the question of terminology itself, I plead along with Newman (1974) for the total abandonment of the term Chado-Hamitic (and also Semito-Hamitic). No serious linguistic scholar can any longer contend that the term "Hamitic" has any linguistic justification whatsoever. But even ignoring this fact, there is the problem that the term "Chado-Hamitic" has been applied to a group of languages with no particular linguistic affinity other than the fact that they all belong to the Chadic family. Rather than retain this term and try to redefine what is meant by it, better to abandon it altogether in favor of Plateau-Sahel, or possibly West Chadic, terms which now have currency in the literature.

classification, I believe that it is questionable whether Chadic should be considered New Stage, i.e. I believe many features of the putative proto-Afroasiatic system are still evident within Chadic.

Diakonoff's discussion of Chadic is based almost entirely on Hausa. Had he had access to more Chadic material, he probably would have viewed this group somewhat differently, but until the last decade or so, Hausa was the only Chadic language for which there existed much reliable documentation. Published materials on other Chadic languages consisted mostly of sketchy word lists, and most of these lists were so inaccurately transcribed and glossed that they were of limited use at best, even for learning about Chadic phonology. The last few years have seen a tremendous upsurge in good quality research and publication on Chadic languages, especially by JOHANNES LUKAS and HERRMANN JUNGRAITHMAYR in Germany and PAUL NEWMAN in the United States. I will draw on published materials by these scholars as well as materials from my own research to demonstrate that the verbal systems of the Chadic languages show many of the features attributed to reconstructed Afroasiatic by Diakonoff. These features are not particularly evident from an examination of Hausa alone, though when compared with closely related languages, Hausa is certainly not an atypical Chadic language.

Diakonoff (1965:78) makes the following statement:

"There is considerable variety in the verbal forms of the different Semito-Hamitic [= Afroasiatic] languages but characteristic of all known or reconstructible languages of the Ancient and Middle Stage is a formal distinction between the categories of transitive and intransitive, as well as between the perfective and imperfective aspects. Reflected in the verbal conjugation is the person of the subject; the transitive verb may also have a suffixed pronominal element expressing the person of the object"

And further on the same page:

"Several Semito-Hamitic languages have a special finite verbal form for the intransitive predicate expressing a state (originally a nominal predicate). Thus, in Akkadian, any noun in the Absolute form (*Status praedicativus*), if it is predicate to a subject in the 1st or 2nd person, acquires affixes of a pronominal origin, expressing the person of the subject."

ALL these statements (as well as a number of others which he makes about the general character of the Afroasiatic verbal system) are applicable as general features of the Chadic verbal system. There are, therefore, a number of dimensions to the verbal system which could be of comparative interest. I will here discuss just two of these dimensions: (1) the nature of Chadic subject agreement with verbs and (2) alternations in the verb stem as a means of marking aspectual differences.²

2.1. Subject Agreement on Verbs

Diakonoff (1965:80-81) reconstructs proto-Afroasiatic as having had a prefix-conjugation for at least some aspects. On pp. 80-81 he gives the following paradigms as representative of the four branches of Afroasiatic preserving the prefix-conjugation (this conjugation-type was lost in Egyptian):

²For a discussion of the importance of the transitive/intransitive distinction in Chadic, see Newman (1971). This article also has examples of what may be a cognate reflex of the pronominal suffixes on statives, mentioned in the second quote from Diakonoff above.

(1)	SEMITIC	BERBER	BEDAWYE (Cush.)	HAUSA (Chadic)
sg.1c.	<i>ʔa</i> -...	ϕ ...- $\partial\gamma$	<i>a</i> -...	<i>in</i> [also <i>ní</i> , <i>na</i>]
2m.	<i>ta</i> -...	<i>t</i> -...- <i>t</i>	<i>te</i> -...- <i>a</i>	<i>ka</i>
2f.	<i>ta</i> -...- $\bar{t}$	<i>t</i> -...- <i>t</i>	<i>te</i> -...- <i>i</i>	<i>ki</i>
3m.	<i>ya</i> -...	<i>i</i> -...	<i>i</i> / $\bar{e}$ -...	<i>ya</i> [also <i>shí</i>]
3f.	<i>ya</i> -...	<i>t</i> -...	<i>tí</i> -...	<i>ta</i>
	<i>ta</i> -...			
pl.1c.	<i>na/i</i> -...	<i>n</i> -...	<i>ní</i> -...	<i>mu</i>
2m.	<i>ta</i> -...- $\bar{u}$	<i>t</i> -...- <i>m</i>	<i>te</i> -...- <i>na</i>	<i>ku</i>
2f.	<i>ta</i> -...- $\bar{a}$ / <i>-na</i>	<i>t</i> -...- <i>m-t</i>	<i>te</i> -...- <i>na</i>	<i>ku</i>
3m.	<i>ya</i> -...- $\bar{u}$	ϕ ...- <i>n</i>	<i>e</i> -...- <i>na</i>	<i>su</i>
3f.	<i>ya</i> -...- $\bar{a}$ / <i>-na</i>	ϕ ...- <i>n-t</i>	<i>e</i> -...- <i>na</i>	<i>su</i>
	<i>ta</i> -...- $\bar{a}$ / <i>-na</i>			

With respect to these paradigms, Diakonoff says (p. 80):

"... we find that the conjugation of the Jussive, the Perfective, and the Imperfective is identical, i.e. the persons of the subject are expressed by the same prefixes in all three forms, the difference between them appearing not in the conjugation itself but in the vocalism of the respective stems."

On page 81, he says of the Hausa paradigm, which represents Chadic:

"As can be seen from [(1)], the Tchad languages ... stand off from the others: the person of the subject forms is in Hausa expressed by separate lexemes. In several verbal forms they are connected with the stem by a particle."

There are three separate issues of comparative interest in Diakonoff's comments: invariance of the prefix-conjugation agreement morphemes regardless of verb aspect, status of the prefixes as "separate lexemes" in Chadic but not elsewhere, and the "connecting" of agreement prefixes to the verb by special particles in Chadic.

Let us turn first to the invariance of the agreement prefixes. It is not entirely clear what forms Diakonoff is citing for Hausa in (1) above since he does not mark tone or vowel length. The implication of presenting this paradigm followed by the quoted remarks is that Chadic languages, like other branches of Afroasiatic, should have invariant subject pronouns with aspect distinctions shown in the verb. While I believe Diakonoff is right, this conclusion is not entirely obvious on the basis of Hausa data alone. Consider the following Hausa forms from the Sakkwato dialect, cited in first singular, third masculine singular, and second plural:³

³ In the examples in (2) and elsewhere, doubled vowels represent long vowels. An acute accent (´) represents high tone, a grave accent (̀) low tone, and for those languages having three tones, no mark represents mid tone. There are also occasional examples of falling tone (ˆ), rising tone (ˊ), and downstep (˗). The latter is a slightly lowered high following a high. The digraph *sh* is the Standard Hausa orthographical representation of [ʃ].

(2) Perfective:	<i>nāa tãhĩ</i>	'I went'
	<i>yāa tãhĩ</i>	'he went'
	<i>kūn tãhĩ</i>	'you went'
Relative Perfective:	<i>nāt tãhĩ</i>	'... I went'
	<i>yāt tãhĩ</i>	'... he went'
	<i>kūnkā tãhĩ</i>	'... you went'
Subjunctive:	<i>ĩn tãhĩ</i>	'that I go'
	<i>shĩ tãhĩ</i>	'that he go'
	<i>kũ tãhĩ</i>	'that you go'
Potential:	<i>nāā tãhĩ</i>	'I will probably go'
	<i>yāā tãhĩ</i>	'he will probably go'
	<i>k"āā tãhĩ</i>	'you will probably go'
Continuous:	<i>ĩnāa tãhĩyāa</i>	'I am going'
	<i>shĩnāa tãhĩyāa</i>	'he is going'
	<i>kūnāa tãhĩyāa</i>	'you are going'

As can be seen in (2), the verb stem remains constant regardless of aspect, except in the Continuous, where the finite stem is replaced by the verbal noun (we will return to this below). It is the form of the material preceding the verb which marks aspect differences. The fact that this prefixed material often consists of a phonological portmanteau form which marks both subject agreement and verb aspect has led many writers of descriptive and pedagogical grammars of Hausa to make statements like the following (Parsons, 1960:29): "... the exponent of what is traditionally called 'aspect' in other languages is not in Hausa the form of the verb itself, but ... THE FORM OF THE SUBJECT PRONOUN (and auxiliary) ..." [my emphasis - RGS].

Although Diakonoff was working almost exclusively with Hausa data, he showed considerable insight in his conclusion regarding Chadic as a whole. Consider the following table with forms for the first person singular and the second person plural for the verb 'to eat':

(3)	PROTO-PERFECTIVE	PROTO-SUBJUNCTIVE	PROTO-IMPERFECTIVE
NGIZIM	PERFECTIVE	SUBJUNCTIVE	IMPERFECTIVE
	<i>nā tã-w</i>	<i>nā cĩ</i>	<i>n-āa tã-w</i>
	<i>kwā tã-w</i>	<i>kwā cĩ</i>	<i>kw-āa tã-w</i>
KAREKARE	PERFECTIVE	SUBJUNCTIVE	IMPERFECTIVE
	<i>nā tũ-kōo</i>	<i>nā tãĩ</i>	<i>n-āa tō-nā</i>
	<i>kū t-ān-kōo</i>	<i>kū tãĩ</i>	<i>kw-āa tō-nā</i>
ANGAS	"GRUNDASPEKT"	SUBJUNCTIVE	
	<i>ŋa se</i>	<i>ŋā se</i>	
	<i>wu se</i>	<i>wũ se</i>	

	PERFECTIVE		
	ŋa-à se < *ŋa-kə se		
	wu-à se < *ku-kə se		
RON (DAFFO)	"GRUNDASPEKT"	SUBJUNCTIVE	HABITUATIVE
	yĩ cu	yĩ cu	yĩ cwaay
	hũ cu	hũ cu	hũ cwaay
	PERFECTIVE		
	yĩ cu-ân		
	hũ cu-ân		
HAUSA	NEG. PERFECTIVE	SUBJUNCTIVE	POTENTIAL
	bâ-n cĩ bâ	ñ cĩ	n-ââ cĩ
	bâ-kũ cĩ bâ	kũ cĩ	kw-ââ cĩ

Remarks on Table (3): (1) The three proto-aspects and their modern reflexes can almost certainly be equated with the Perfective, Jussive, and Imperfective respectively mentioned in the first quote from Diakonoff above, p. 3.

(2) Two aspects listed under one column indicate that both probably developed from a single proto-form.

(3) The "GRUNDASPEKT" of Angas and Ron is a sort of neutral association of an action with an actor.

When we examine this table we see that in language after language the subject pronouns vary little if at all from one aspect to another. We can even reconstruct segmental shapes for these subject pronouns which are very similar to those in Diakonoff's table cited above as (1). In some cases the pronoun has blended phonologically with some other preverbal morpheme, but on both comparative and internal grounds, segmentation of the pronoun and reconstruction of its original shape can easily be done. The main variation in pronoun shape from one aspect to another in the languages cited here is in tone, but this is certainly secondary, in most cases probably developing from dissimilation of the pronoun tone from the tone of the verb followed by loss of tonal distinctions in the verb. Like the system Diakonoff reconstructs for proto-Afroasiatic, then, the proto-Chadic system can be reconstructed as one with invariable prefix subject pronouns whose sole grammatical function was the marking of person, number, and gender of the subject. While statements like the quote from Parsons (1960) above (p. 5) may be a reasonable conception of modern Hausa, the proto-Chadic system cannot be characterized in this way, and even modern Hausa permits us to extract the general nature of the proto-system (cf. Newman and Schuh, 1974).

Diakonoff remarks (in the second quote on p. 3 above) that Chadic languages differ from other Afroasiatic languages in that the subject person marking pronouns are separate lexemes rather than bound affixes. It may be worth while to see what justification there is for this claim since in the standard Hausa orthography the subject pronouns are written as separate lexemes. Thus, the "separate lexeme" notion could merely be the result of one's being used to seeing pronouns separated from the verb in writing.

There is, as it turns out, linguistic evidence in many Chadic languages favoring the separate lexeme status for subject pronouns. In a number of languages, certain subject pronouns have been REPLACED by different pronouns. I cite two examples from many. In Newman and Schuh (1974) we show that the modern Perfective pronoun series (see (2) above)

is a paradigm which has replaced an older paradigm similar to that used in the modern Subjunctive. In Bolanci the second and third person plural subject pronouns are *māa* and *mātē* respectively. While the origin of these forms is obscure, it is obvious that they have replaced pronouns of the type *ku* 'you (pl)' and *su* 'they' which are seen in nearly all languages closely related to Bolanci, e.g. Karekare *kū*, *sū*, Ngamo *ngū*, *zūnī*, Hausa *kū*, *sū*, etc. It is inconceivable that BOUND inflectional affixes could be stripped away from their verbs and replaced in this way.

Another type of evidence demonstrating the separate lexeme status of the subject pronouns is found in Kanakuru. In that language there has been a series of consonant lenitions intervocalically within a word, e.g. **a dāki* > *a dāyi* 'he built'. This change has not affected the initial consonants of verbs following subject pronouns, though it has affected initial consonants of bound pronoun objects suffixed to verbs, e.g. **a ko-ko šal* > *a ko-γo šal* > [a ko-wo šal] 'he caught-you a monkey' (see Newman (1970) for the sound changes involved here).

In Hausa, there is some synchronic evidence for the separate lexeme status of the preverbal pronouns. There are a few "emphasis particles" such as *dāi* 'indeed', *kūmāa* 'as well' which can appear between the preverbal pronoun and the verb (but NOT between the verb and a following object pronoun), e.g. *nāa dāi tāfī* 'I indeed went'.⁴ Thus there is a variety of evidence that in Chadic, the subject pronouns are indeed separate lexemes.

A general assumption regarding inflectional affixes is that they can normally be traced back to at least partially independent pronouns which, through phonological wear, have been reduced to bound morphemes. If this sort of development can be supported for the Afroasiatic inflectional forms in (1), then contrary to Diakonoff's characterization of Chadic as New Stage (see above, pp. 2-3), in this particular case Chadic would be "Pre-Ancient Stage," representing a time before subject pronouns had become bound affixes.

The final issue raised by Diakonoff regarding subject agreement prefixes is that these prefixes are sometimes "connected with the [verb] stem by a special particle." In Newman and Schuh (1974) we reconstruct the following schema for the proto-Chadic verb complex:

- (4) PVP (+ Prt) + Verb Stem (PVP = preverbal pronoun
Prt = aspect marking particle)

This schema will be recognized as being very close to that suggested by Diakonoff. However, I now question the inclusion of + Prt in the Chadic schema. There is little evidence for the reconstruction at any great depth of any such particle in the "basic" verbal aspects.⁵ Newman and I reconstructed a **kV* Perfective morpheme and an **aa* Imperfective morpheme. The **kV* Perfective morpheme, seen in the second person plural of the Relative Perfective in (2), may be reconstructible back to the subgroup of which Hausa is a part, for such a particle is also found in Angas and other closely related languages (cf. Angas Perfective in (3)). As

⁴ For comments relating to the intervention of these particles between subject pronoun and verb but not between verb and object pronoun, see Parsons (1960), p. 3 (especially fn. 4) and p. 13 (especially fn. 33).

⁵ I consider the "basic" aspects to be those mentioned by Diakonoff, viz. Perfective, Jussive (called Subjunctive here), and Imperfective. Jungraithmayr (1974) suggests that there are but two aspect SYSTEMS, a Perfective and an Imperfective. Jungraithmayr claims, correctly in my opinion, that even though all Chadic languages have more than two or three verb aspects/tenses/moods, some of these are demonstrably derivable from other, more basic ones. I might point out that the hypotheses advanced in Jungraithmayr (1974) about the verbal system of proto-Chadic are almost identical to those advanced in this paper, though we reached our conclusions independently.

for the *aa Imperfective morpheme, which is more widespread, I believe that this particle was, in origin, not part of the verbal system per se (see section 2.2 below).

Unlike Hausa, many Chadic languages closely related to it mark aspect distinctions through modifications of the verb stem (whether internal changes or suffixes), not by particles between subject pronoun and verb. As already noted above, the verb in Hausa is invariable for most aspects. This is clearly an innovation in Hausa. Whether the use of aspect marking particles was necessitated by a shift toward invariance in the verb or verb invariance was allowed because of increased use of particles we cannot now say. In any case, the general Chadic picture conforms well to that for the rest of Afroasiatic, viz. a prefixed subject pronoun followed directly by a verb stem which undergoes various modifications to show aspect distinctions.

2.2. Verb Stem Shape and Aspects

Concerning the nature of the root (in particular, the verb root) in Afroasiatic, Hodge (1969:244) says the following:

"Discussions of the nature of the root have naturally been highly colored by the basic Semitic orientation of most scholars in the field. The 'root and pattern' system of Semitic, with a predominately three consonant root and added vowel patterns, does not readily lend support to the theory of a proto-language involving roots with fixed vocalic or sonant components. Egyptian and Berber appear to support Semitic in this respect, while Cushitic and Chadic have a definitely different pattern. In the latter two the predominant root structure is of two consonants, with a fairly stable vowel system. If the hypothesis of relationship is correct, one must assume for most roots either a loss of a consonant in Cushitic and Chadic, a gain of one in the other three, or a mixture of both. All solutions have their proponents."

Two issues relating to comparison of Chadic with the rest of Afroasiatic can be singled out here: (1) how the Chadic system relates to the 'root and pattern' inflectional system seen in other branches, and (2) what Chadic has to say about reconstructible Afroasiatic root structure.

Regarding the second issue, I can add little to what has already been said in the literature summarized by Hodge (1969:244). As he says, Chadic root structure is typically biconsonantal. Triconsonantal roots are not uncommon in Chadic, but in two interesting and suggestive articles, Jungraithmayr (1970b, 1971) has shown for Hausa that the third consonant in many Hausa verbs (and also nouns, especially animal names) is almost always one from a restricted number of consonants. Jungraithmayr hypothesizes that these third consonants are former grammatical formatives which have been lexicalized as part of the verb.⁶ Jungraithmayr's observations on Hausa root structure are very much like those advanced by Diakonoff (1965:37) regarding the third radical of verbs in Semitic.⁷ In Berber, where triconsonantal roots are

⁶ Although I have not done a systematic investigation, my own data from Ngizim and Bade appear to show much the same thing for those languages as Jungraithmayr proposes for Hausa. In fact, the actual consonants appearing as the third radical are about the same in these three languages, especially -k-, -n-, -d-, and two or three others.

⁷ Diakonoff (1965:37) observes that in the Chadic languages "the originally grammatical character of the third radical is usually more or less apparent." If he is referring to the same phenomenon as Jungraithmayr, he has shown unusual insight into the structure of these languages, since a casual glance at Hausa triconsonantal roots does NOT reveal any particular grammatical function of the third radical. I suspect, however, that Diakonoff has in mind one or two productive or semi-productive verb derivational endings found in Hausa and other languages.

predominant in terms of absolute number of verbs, biconsonantal and even monoconsonantal roots are not uncommon, especially among verbs in the "basic vocabulary." These observations for Semitic and Berber, plus Hodge's observation that Cushitic roots are basically biconsonantal, suggest that the basically biconsonantal root structure of Chadic languages is certainly not anomalous within Afroasiatic as a whole.

Of perhaps more interest is the way that the Chadic aspect-marking system relates to the "root and pattern" systems of Semitic and Berber (and Egyptian). Both Diakonoff (1965:38) and Hodge (1969:244) consider the basic Chadic verbal root to be biconsonantal with a stable root vowel. They also both see the "root and pattern" inflectional system as being incompatible with this type of root structure. The Afroasiatic comparativist is thus in a quandry: does he reconstruct proto-Afroasiatic as being the "stable root" type as Chadic is said to be, or does he reconstruct proto-Afroasiatic as having the "root and pattern" system? Diakonoff (1965:38) more or less straddles the fence, suggesting that the seeds of the root and pattern system existed in the proto-language and that this system caught on in Semitic, Berber, and Egyptian, but never prevailed in Cushitic or Chadic. Nevertheless, for a system as remarkable as the root and pattern system to have become so thoroughgoing in at least two and probably three branches of Afroasiatic, we would expect at least some traces of it to remain even in those groups where it has not prevailed. In fact I believe such traces can be found in Chadic.

In the area of verb inflection, reliance on Hausa alone gives an uncharacteristic picture of the overall Chadic system. As we saw above, the verb stem does not vary with aspect in Hausa. This is not typical of the family as a whole, however, since many Chadic languages do use different verb shapes to indicate aspectual differences. Something like the system in (5) can be reconstructed. CVC- represents the biconsonantal verb root noted above for Chadic.

- (5) LEXICAL STEM: CVC $\varnothing$ /a
 SUBJUNCTIVE STEM: CVCi
 IMPERFECTIVE STEM: CaCa

Specifics of this reconstructed system are tentative at our present state of knowledge, but the general pattern can be fairly well established. Newman (1975) reconstructs two lexical classes of verbs for proto-Chadic: a final - $\varnothing$ class and a final -a class.⁸ Though tone is not indicated in the reconstructions in (5), Newman also reconstructs a high tone class of verbs and a low tone class of verbs. These tone classes probably cross-cut the final vowel classes, giving a four-way lexical classification. Modern evidence indicates that both the final vowel distinctions and the lexical tone distinctions were neutralized in some aspects. While it is at present not possible to reconstruct which aspects preserved lexical tonal distinctions and which neutralized them, we have better indications regarding the verb classes.

⁸ A similar lexical classification is found in Berber. Most verbs in Berber have a final " $\varnothing$ vowel" ($\varnothing$ or epenthetic $\varnothing$) in all forms while a relatively small "i/a" class of verbs has a final stem vowel -a- in certain conjugational forms. If we identify the Berber "i/a" class with the Chadic -a class, the resemblances go even further. In terms of overall number of verb stems, the Berber i/a class and the Chadic a class are much smaller than the respective $\varnothing$ and $\varnothing$ classes. In Berber, the i/a class is restricted to verbs of one or two radical consonants as is the a class in most Chadic languages (Hausa does have a verbs of three radical consonants). Finally, the Berber forms with -a- are found only in the Perfective stem and the Chadic $\varnothing$ vs. a lexical distinction is normally found only in the Perfective.

The lexical stem vowel distinction appears in the Perfective. The vowel -ə is a reconstructed cover symbol which, depending on the language and various phonological factors, may be realized as -i, -u, -ə, or even $\emptyset$.⁹ In the Subjunctive stem (also called Jussive and Optative, among other terms) modern evidence indicates that the final vowel distinction was neutralized to -i.¹⁰ The Perfective and Subjunctive stems may likewise have been tonally distinct. The final vowel distinction in the Perfective and its neutralization to -i are illustrated in (6).

(6)	PERFECTIVE		SUBJUNCTIVE	
KAREKARE	<i>nā yĩndǎ-kāu</i>	'I stood up'	<i>nā yĩndǎi</i>	'that I stand up'
	<i>nā pātāa-kāu</i>	'I went out'	<i>nā pātǎi</i>	'that I go out'
NGIZIM	<i>nā vǎrū-w</i>	'I went out'	<i>nā vǎrǎi</i>	'that I go out'
	<i>nā rāwā-w</i>	'I ran'	<i>nā rāwǎi</i>	'that I run'

The Imperfective stem is of particular significance for Afroasiatic comparative purposes. Greenberg (1952) has reconstructed an Afroasiatic "Present" verb form with a geminate radical and/or an internal vowel change to -a-. I know of no Chadic languages which systematically use geminated radicals for inflectional purposes. However, Greenberg notes an internal alternation of *i* → *a* in certain Chadic languages.¹¹ Jungraithmayr (1966, 1970a), in important work, gives detailed discussion of similar alternations in the Ron group of languages, spoken in central Nigeria. Examples of verb paradigms from the Daffo dialect of Ron are given in (7). The Habitative in (7) represents what has been reconstructed as the Imperfective stem. Examples are in the first person singular.

(7)	"GRUNDASPEKT"	PERFECTIVE	HABITATIVE
'to eat'	<i>'i cu</i>	<i>'i cw-ǎn</i>	<i>'i cwaay</i>
'to blow'	<i>'i fū'</i>	<i>'i fū'-an</i>	<i>'i fwāā'</i>
'to die'	<i>'i mǎt</i>	<i>'i mǎt-ǎn</i>	<i>'i mwaāt</i>

Jungraithmayr characterized the three stem types illustrated in (7) as CVC, CV-an, and C(V)-aa-C respectively. I would claim that the Grundaspekt is related to the reconstructed Lexical Stem with apocopation of the final vowel in the second and third examples (many Chadic languages in this geographical area have systematically apocopated final vowels). The Habitative stem is clearly related formally and semantically to Greenberg's reconstructed Afroasiatic Present stem. The origin of the -an suffix of the Perfective stem is not clear at the moment, though it may be a reflex of a derivational extension widely found in Chadic which usually means action completely or well-done.

Most modern Chadic languages do NOT have a special Imperfective stem used with preverbal pronouns as in Ron languages. Rather, the Imperfective aspect (with future and/or progressive

⁹ Following standard practice in the Chadic literature, I am using ə to represent phonetic [i], i.e. a high, central vowel. Since the various modern manifestations of reconstructed -ə are all high vowels (or $\emptyset$) we might simply say that proto-Chadic verbs fell into a "high vowel class" and a "low vowel class."

¹⁰ The singular Imperative also replaced final stem vowel with -i (cf. Karekare *pātǎi* 'go out!', Ngizim *ā vǎrǎi* 'go out!' with the forms in (6) below. While Hausa no longer alters verb stems to mark aspect distinctions, Newman (1973:302) points out that one class of verbs, viz. low tone transitives (grade II), preserves this change to final -i in the singular Imperative. Thus, we have *nāa sāyāa* 'I bought' but *sāyǎi* 'buy!'.

¹¹ Greenberg (1952:7) incorrectly identifies his citations from Lukas (1937) as being the Sokoro language. They are, in fact, from Mubi, a language fairly closely related to Sokoro.

meaning) makes use of a VERBAL NOUN with a pre-verbal pronominal construction having a long vowel. For example, in Ngizim we find *nāa tɔ̃fā* 'I am entering/will enter' where *tɔ̃fā* is a verbal noun¹² and the pronoun has long -aa (cf. the Perfective *nā tɔ̃fū* 'I entered' with a short preverbal pronoun and finite verb form).

I suggest that this state of affairs can be explained in the following way: at the time of proto-Chadic, a locative phrase of the type outlined in (8) could be formed:

- (8) SUBJECT GENERAL LOCATIVE MARKER PREDICATE
- pronoun
- noun + aa + nominalized verbal construction

Literally translated, such a construction would be something like 'I + at + building-of-house', i.e. 'I'm building a house'. This construction, while not syntactically verbal, contained a verbal root and was in at least partial semantic competition with the truly verbal Imperfective construction. Throughout much of Chadic, the Imperfective aspect and this locative construction have fallen together. As the merger of these two constructions took place, certain formal characteristics of the locative construction won out. In particular, the Imperfective stem was reinterpreted as a type of verbal noun, and the "long" pronouns of the locative construction (actually simply a phonological combination of the pronoun subject plus the general locative marker, aa) were adopted instead of the simple preverbal pronouns. Note that in the Ron languages, where this merger did not take place, there is still a Progressive construction which uses a verbal noun preceded by a "long" pronoun in contrast with the Imperfective (Habitative) which uses a short preverbal pronoun and a special, finite Habitative stem (cf. Jungraithmayr, 1970a:203). Compare the following Ron (Daffo dialect) forms with the paradigms in (7):

- (9) PROGRESSIVE
- 'I am eating' *yāā cwayi*
- 'I am blowing' *yāā fu'ɪ*
- 'I am dying' *yāā mōt*

Many modern Chadic languages have two sets of "verbal nouns" (in Hausa generally referred to as "primary" and "secondary" verbal nouns). I suggest that historically, one of these verbal noun sets is a reflex of the proto-Chadic Imperfective stem, while the other is a reflex of the true proto-Chadic verbal noun. One of these sets of verbal nouns is usually verb-like in having limited and predictable tone and vowel patterns. Moreover, this verb-like set can frequently be characterized as adding a suffix containing an -a to the verb root or replacing the final vowel of the verb root by -a. This set would be the reflex of the proto-Chadic Imperfective stem. The other verbal noun set is usually more noun-like in not having fully predictable tone and vowel patterns and sometimes in having phonological shapes unlike canonical forms for verbs. The table in (10) shows such pairs of verbal nouns from several languages (in the case of Ron, the forms listed in the "verb-like" column are actually the Imperfective stems):

¹² By calling *tɔ̃fā* a verbal noun, I mean that in addition to its use in verbal predicates, it can be used in any syntactic position that a concrete noun might be used. In fact, *tɔ̃fā* and other such verbal nouns may be the modern reflex of both the proto-Chadic Imperfective stem and the verbal noun, which have fallen together in the modern language.

(10)		"VERB-LIKE"	"NOUN-LIKE"	PERFECTIVE STEM
HAUSA	'transplant'	<i>dāsāawāa</i>	<i>dāshēe</i>	<i>dāsà</i>
	'repair'	<i>gyāarāawāa</i>	<i>gyāarāa</i>	<i>gyāarà</i>
	'buy'	<i>sāyāa</i>	<i>sāyēe</i>	<i>sāyī</i>
	'kill'	<i>kāshēewāa</i>	<i>kīsāa</i>	<i>kāshē</i>
KAREKARE	'bury'	<i>mbūlmāa</i>	<i>mbūlmū</i>	<i>mbūlmū</i>
	'catch'	<i>cāwāa</i>	<i>cāwū</i>	<i>cāwū</i>
	'run'	<i>gūyē</i>	<i>jōo jō</i>	<i>gūyāa</i>
NGIZIM	'sew'	<i>dānkā</i>	<i>dānāk</i>	<i>dānkə</i>
	'slaughter'	<i>zīidā</i>	<i>zāyāt</i>	<i>zīidə</i>
	'cook'	<i>bōnā</i>	<i>ābōn</i>	<i>bōnə</i>
	'give birth'	<i>'yāwū</i>	<i>dīyī</i>	<i>'yāwə</i>
RON (DAFFO)	'cry'	<i>hwaāh</i>	<i>hwash</i>	<i>hoh</i>
	'drink'	<i>shwaāh</i>	<i>shwayī</i>	<i>shoh</i>
	'run'	<i>twāak</i>	<i>tūtōk</i>	<i>tōk</i>

In (11) are examples of the four types of verbal or quasi-verbal constructions discussed above. In the Imperfective Ngizim, Karekare, and Hausa now all use only the construction type which I suggested is a reflex of the locative construction schematized in (8), but with the possibility of choosing either verbal noun type where available.¹³ Examples are all in second person masculine singular:

(11)		PERFECTIVE	SUBJUNCTIVE	REFLEX OF PC IMPERF. STEM	REFLEX OF PC VERBAL NOUN
RON (DAFFO)	'beat'	<i>ā dāsh</i>	<i>à dāsh</i>	<i>ā dāāsh</i>	<i>āa dashī</i>
MUBI	'sit down'	<i>kā wīrī</i>	?	<i>kā wīrāy</i>	?
NGIZIM	'sew'	<i>kā dānkū-w</i>	<i>kā dānkī</i>	<i>k-āa dānkā-w</i>	<i>k-āa dānāk</i>
KAREKARE	'follow'	<i>kā dāafūu-kōo</i>	<i>kā dāafīi</i>	<i>k-āa dāafāa</i>	<i>k-āa dāafū yī</i>
HAUSA	'buy'	<i>kāa sāyāa</i>	<i>kā sāyāa</i>	<i>kā-nāa sāyāa</i>	<i>kā-nāa sāyēe</i>
	'buy a bull'	<i>kāa sāyī sāa</i>	<i>kā sāyī sāa</i>	<i>kā-nāa sāyā-n sāa</i>	<i>kā-nāa sāa sāyēn</i>
	'repair'	<i>kāa gyāarāa</i>	<i>kā gyāarāa</i>	<i>kā-nāa gyāarāawāa</i>	<i>kā-nāa gyāarāa</i>

Remarks on (11):

RON (DAFFO): The form listed in the Perfective column is the Grundaspekt as given in Jungraithmayr (1970a:199). The pronoun is cognate with the other languages, having undergone the development **ka > ha > a*.

¹³ There is frequently a meaning difference associated with the type of verbal noun used. For example, in Ngizim, the "verb-like" verbal noun indicates future or progressive action while the "noun-like" verbal noun tends to indicate action done habitually or as an occupation.

MUBI: Lukas (1937:169) from whom these examples are taken does not give complete systematic paradigms for the various aspects. These Mubi examples are included to illustrate the use of a special Imperfective stem in a language outside the Ron group.

NGIZIM: Modern Ngizim systematically forms two verbal noun types with only one class of verbs, viz. CVCC $\bar{a}$ stems with high tone. Outside this class, only a few verbs have two distinct verbal nouns. Thus, there is only one verbal noun type and one Imperfective construction possible for most verbs.

KAREKARE: The suffix *yî* on the verbal form in the progressive column is elsewhere used on concrete nouns to indicate definiteness. Its function here is to indicate deletion of a previously mentioned object. Note that no *-yî* appears on the verb form in the column labelled as having a reflex of the proto-Chadic Imperfective stem.

HAUSA: For the illustration of the CVC $\bar{a}$ type stem, examples have been included with and without a direct object, because when not followed by an object these stems now end in *-āa*. Reflexes of the CVC $\bar{a}$ type stem do not undergo final vowel quality alternations.

To summarize this section, we may note that Chadīc languages in general do not exploit a root and pattern system in the very striking and productive way that Semitic and Berber languages do. Nevertheless study of the comparative evidence within Chadīc obliges us to reconstruct a system of verb stem alternations to mark aspect. Three such aspectually determined stem alternations have been reconstructed. First, there is a Perfective stem which has a lexically determined final stem vowel *-a* or *-ā*. Next, there is a Subjunctive stem which replaces the lexical stem vowel by *-i*. The Subjunctive and Perfective stems may also have differed tonally in proto-Chadic.

Probably the most interesting alternation for comparative purposes is an Imperfective stem characterized by a vowel *-a-* infixed within and/or suffixed to the verb root. This special Imperfective stem is attested in at least two groups of Chadīc languages (the Ron languages of central Nigeria and the Chadīc languages spoken in the Republic of Chad). While other groups do not have a special finite Imperfective stem, I have suggested that a reflex of this Imperfective stem is seen in languages having two sets of "verbal nouns." One of these sets would be the reflex of the Imperfective stem, the other set the reflex of the true proto-Chadic verbal noun. The Imperfective verbal construction itself has been replaced in many Chadīc languages by a historically locative construction of the form "be at doing."

Before concluding, one final phenomenon noted sporadically in various Chadīc languages may be mentioned. Chadīc has been characterized as having verb roots with a "fairly stable vowel system" (see quote from Hodge (1969), above p. 13) as opposed to other branches of Afroasiatic which have purely consonantal roots with differing vowel patterns to indicate differences in aspect, etc. While this is in general true, we find phenomena such as the following: (a) in Bolanci, a root *-a-* is changed to *-e-* in verb forms where the final vowel is *-e-*, e.g. *bāsāa-tā-wō* 'he shot it' but *bēsē* 'shooting'. (b) In Bade (closely related to Ngizim), some verbs of the root structure CaC- have verbal nouns with final *-i*. In such verbs the *-a-* is changed to *-i-* in the verbal noun, e.g. *nā māsū* 'I bought' but *māsī* 'buying'. (c) In Hausa, a number of verbs with mid vowels in their finite stems are paired with verbal nouns having corresponding high vowels, e.g. *nāa sōoyāa* 'I fried' but *sūuyāa* 'frying, something fried', *nāa kēerāa* 'I forged' but *kīirāa* 'forging'. Examples (a) and (b) here represent merephonological assimilations. The history of the Hausa alternations in (c) is not yet known. Certainly, these examples of modification in root vowels are nothing like the morphological vowel alternations of Semitic or Berber. Nevertheless, the fact that Chadīc languages tolerate some kind of vowel ablaut casts doubt on claims that Chadīc roots must be characterized as CVC- with a necessarily STABLE root vowel. In Chadīc, as in the rest of Afroasiatic, it is the consonantal framework of a root which carries the major lexical load.

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